

2000*l.* to the endowment fund. The necessary alterations to the buildings were carried out at the expense of Mr. James Coats, who between 1892 and 1898 increased the fund by 6000*l.*, making it 10,000*l.* in all, and also made important additions to the equipment. Milne and Ewing seismographs, magnetometers, and other instruments were also ordered, rendering the observatory one of the most completely furnished in the kingdom. The seismographic observations for the year 1906 show that eighty-two earth movements were recorded.

The following results, taken from the meteorological observations for the twenty-two years 1885-1906, are interesting:—highest reading of barometer 31.002 inches, on January 9, 1896; lowest, 27.584 inches, on December 8, 1886; maximum temperature, 88°·6, on September 1, 1906; lowest, 4°·8, on February 10, 1895 (1°·0 was quoted by the institution on January 17, 1881). The mean annual rainfall is 38.29 inches, the average number of rain-days being 212; the rainfall in 1903 was 69.57 inches, and in 1896 only 24.45 inches. Polar winds prevail, on

appointment of a reader in forestry for a period of five years from October 1, 1907. The annual stipend is 400*l.* Candidates are requested to send in their applications, with such testimonials as they think fit, to the Vice-Chancellor on or before July 15.

The syndicate appointed to obtain plans for the extension of the Cavendish Laboratory has obtained tenders from nine firms. The lowest tender, 7135*l.* (including a provisional sum of 500*l.* for the cost of heating), was that of Mr. W. Sindall, of Cambridge. The syndicate now recommends that the Vice-Chancellor be authorised to accept the tender of Mr. Sindall. The cost of this extension will be largely met by Lord Rayleigh's munificent gift to the University of the Nobel prize.

The syndicate appointed to obtain plans for the extension of the chemical laboratory has laid its scheme before the Senate. It is proposed to fill in the gap which now exists along Pembroke Street between the medical school and the existing chemical laboratory with a three-storied building. This will provide for a large increase to the



The Coats Observatory, Paisley.

an average, on 131 days, and equatorial on 206 days in the year.

The meteorological observations have from the beginning been taken by the curator, Mr. Donald Maclean, formerly assistant to Prof. Grant, at the Glasgow Observatory.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Dr. A. Hill has announced his intention of resigning the mastership of Downing College some time during the long vacation. Dr. Hill succeeded the late Dr. Burkitt some nineteen years ago. He is lecturer in advanced human anatomy, and is the sole representative of medicine and natural science amongst the heads of houses.

The general board of studies will shortly proceed to the

elementary laboratory, a number of smaller laboratories, and a lecture-room to seat 150 students. The cost is estimated at 13,500*l.*, and in view of the facts that in the last three years the average attendance at the University laboratory has increased from less than 200 students to more than 300 a term, and that Gonville and Caius College proposes to close its laboratory next summer, the building of the extension is urgent. The syndicate learns with regret that Prof. Liveing, who was elected in 1861, proposes to vacate the chair of chemistry some time next year. During the forty-six years he has been professor, the study of chemistry has made great advances in the University. Under his care and control the new chemical laboratory was built in 1887. The success which has attended the school at Cambridge is largely due to his untiring energy and his unselfish devotion to his subject.

The Common Seal of the University has been affixed in the presence of the Vice-Chancellor to:—(1) the certifi-

cate of appointment of Prof. Seward to represent the University at the celebration of the 300th anniversary of the death of Ulisse Aldrovandi to be held at Bologna in June; (2) the address to the Royal Swedish Academy of Sciences, Stockholm, in honour of the commemoration of the bicentenary of the birth of Linnæus to be held at Stockholm in May; (3) the certificate of appointment of Mr. F. Darwin to represent the University at the celebration of the bicentenary of the birth of Linnæus to be held at Stockholm in May; and (4) the certificate of appointment of Dr. Harmer, Mr. W. Bateson, and Mr. A. E. Shipley to represent the University at the seventh International Zoological Congress to be held in Boston in August.

MANCHESTER.—Mr. H. Bateman has been elected to the readership in mathematical physics, endowed by Prof. Arthur Schuster to encourage research in mathematical physics, and to which we recently directed attention (*NATURE*, January 24, vol. lxxv, p. 309). Mr. Bateman is a fellow of Trinity College, Cambridge, and was senior wrangler (bracketed), 1905; Smith's prizeman, 1905. He has already published a number of important mathematical contributions. His work in this new post will be followed with interest.

Prof. Ernest Rutherford, F.R.S., is to arrive from Montreal on May 24.

A new departure has been made in the publication of a special prospectus of advanced studies in the faculties of arts and science. A brief account is given of the provision for research in the different departments, as also of the courses of lectures, arranged for the session 1907-8, suitable for post-graduate study. It is hoped in future years to extend the scope of this prospectus so as to give a more extensive record of the resources of the University for advanced study and research.

Mr. C. G. Hewitt has been appointed to the recently founded lectureship in economic zoology.

OXFORD.—The following is the text of the speech delivered by Prof. Love in presenting Prof. A. Graham Bell for the degree of D.Sc. *honoris causa* on May 2:—

Adest Alexander Graham Bell, origine quidem Scotus, diu apud Americanos scientiæ promovendæ dux et auctor probatissimus. Qui vir cum primo Physiologiæ Professor esset, dum surditatis causas et naturam diligentissime expendit, instrumenta quædam arte exquisita effinxit quibus surdi audientium more clara voce loqui docerentur: ita miserorum qui hoc incommodo laborant ægritudines aliqua ex parte relevavit. Idem mox longius progressus latiore apud homines gloriâ adeptus est. Hic ille est qui miraculum illud excogitavit, usu cotidiano iam notissimum, ut ipsa loquentis verba et vivam hominis vocem super montes altissimos et flumina latissima per immensos terrarum tractus et sub ipso Oceano transmittere et, ut aiunt, τῆλε φανεῖν possemus. Virum igitur iure laudamus cum doctrina tum repertis præclarum, qui non solum mortalium commodis naturæ vim inservire coegit sed miseris et mærentibus malorum solamen obtulit.

In a Convocation held in the Sheldonian Theatre on Saturday, May 11, Lord Curzon was admitted and installed as Chancellor of the University. After his installation he conferred the honorary degree of D.C.L. on the Hon. F. R. Moor, Premier of Natal.

An election for the Philip Walker studentship in pathology will be made in October next. The studentship is of the value of 200l. a year for three years. Candidates may be of either sex, and need not be members of the University of Oxford. They are asked to send in their applications, with three testimonials, to the Registrar of the University by September 14.

THE *British Medical Journal* announces that Prof. August Bier, of Bonn, has accepted a call to the chair of surgery in the University of Berlin, vacant by the death of Prof. Ernst von Bergmann.

THE first annual conference of the Association of Teachers in Technical Institutions will be held in Leeds on May 23, 24, and 25. On Friday, May 24, the following papers will be read:—(1) Notes of an educational

visit to the United States of America, H. Ade. Clark; (2) the preliminary training of technical students, Barker North; (3) syllabuses and examinations as applied to building subjects, J. Fitzgerald. Excursions, social meetings, and visits to works will form an attractive part of the meeting.

THE Royal College of Surgeons in Ireland has sanctioned two post-graduate courses to be held annually in Dublin hospitals during the summer. The first course will extend from June 10 to July 2, and the second from September 23 to October 15. The object of these courses is to render available the whole of the clinical material in Dublin for the post-graduate student, so that he may see as much as possible during the brief time at his disposal. Ten general hospitals are included in the list of institutions at which the student may work, as well as hospitals devoted to special subjects. The tickets for the courses admit to the ordinary clinics of all the hospitals, as well as to the special work of the course. Further information can be obtained from, and all applications should be addressed to, Prof. Fraser, Royal College of Surgeons, Dublin.

JUDGED in the light of the results of recent examinations of the Punjab University, the study of science does not seem, says the *Civil and Military Gazette*, to be making much headway in the Punjab. Many years ago the Punjab University arranged a faculty of science with the usual matriculation, intermediate, and bachelors degree tests. A few years ago an additional test was established, viz. that for the degree of master. In 1907, whilst 3546 went up for the matriculation examination in the faculty of arts, only fifty-eight appeared in the similar examination in the faculty of science. Thirty-seven went up for the intermediate examination of the science faculty against 674 who appeared in the same examination in the faculty of arts; whilst the number of candidates in the B.A. examination was 341, only thirteen went up for the same examination in the faculty of science. This comparative neglect of scientific studies is much to be regretted, especially in India, where the object of university education is to effect a combination of the highest results of Western culture and science with the learning of the East.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, March 7.—"Electric Furnace Reactions under High Gaseous Pressures." By R. S. Hutton and J. E. Pataval.

Two steel chambers of 20 litres and 2 litres capacity respectively provided with valves, windows, and insulated electrode holders have been constructed and employed at working pressures up to 200 atmospheres. Inside these pressure vessels any desired arrangement for arc or resistance heating is mounted.

Apart from the influence of pressure, which was the primary object of the investigation, special attention was paid to the effect of the nature of the gaseous atmosphere upon the reactions.

Some measurements were made of the electrical constants of carbon and metal arcs in different gases at high pressures, and the rate of oxidation of heated metals was also considered. With a charge of 10 kilos. of lime and carbon the preparation of calcium carbide was studied in atmospheres of carbon monoxide, coal gas, and hydrogen under reduced and high pressures. Contrary to expectation, no unfavourable influence of carbon monoxide upon the yield was noticeable, the back reaction being limited to the surface.

Silica fused under pressure exhibits a marked decrease in vaporisation, but no appreciable increase in fluidity and transparency. The production of carborundum under pressure is much limited, owing to this decreased volatility of silica.

The authors, as a result of a long, detailed, investigation of the reduction of alumina, conclude that this oxide is reducible by carbon at all temperatures above the melting point, but the metal is set free in the form of vapour, and